(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 10 September 2004 (10.09.2004)

PCT

(10) International Publication Number WO 2004/076817 A1

(51) International Patent Classification7: C09K 7/08

E21D 9/06.

(21) International Application Number:

PCT/EP2004/001229

- (22) International Filing Date: 10 February 2004 (10.02.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0304602.6

28 February 2003 (28.02.2003) GB

- (71) Applicant (for all designated States except US): CONSTRUCTION RESEARCH & TECHNOL-OGY GMBH [DE/DE]; Patente, Marken, Dr. bert-Frank-Strasse 32, 83308 Trostberg (DE).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): ELLENBERGER, Peter [CH/CH]; Rebbergstrasse 97, CH-8706 Meilen (CH).
- (74) Common Representative: CONSTRUCTION RE-SEARCH & TECHNOLOGY GMBH; Patente, Marken, Dr. Albert-Frank-Strasse 32, 83308 Trostberg (DE).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND COMPOSITION FOR INJECTION AT A TUNNEL BORING MACHINE

(57) Abstract: A method of boring a tunnel by means of an earth pressure balance tunnel boring machine, comprising the injection at the cutting head of a foamed aqueous solution and an aqueous solution of a water-soluble acrylic acid-based polymer. The method allows easier tunnel boring in soft, sticky soils.